COVER SHEET

Promoting Public Health Messages:

Should We Move Beyond Fear-Evoking Appeals in Road Safety?

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Abstract

Road traffic injury represents one of the most significant global public health issues of the 21st century. It remains a contentious public and empirical issue the extent that negative, fear-evoking messages represent effective persuasive strategies. Despite the contention, negative, fear-based appeals represent a frequently utilized approach in Australasian road safety advertising. The authors conducted a series of focus groups with 16 licensed drivers to explore the potential utility of appeals to emotions other than fear. More specifically, we sought to explore the utility of positive emotional appeals such as those incorporating humor. The themes emerging from the qualitative analysis suggested that both emotion and the provision of strategies represent key components contributing to the overall persuasiveness of a road safety advertisement. Overall, it appears there is support for researchers and health advertising practitioners to provide further attention to the role that positive emotional appeals may play in future campaigns.

Keywords: public health advertising, road safety advertising, role of emotion, positive emotion, response efficacy, persuasion.

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Beyond representing a serious road safety problem, road traffic injury represents one of the most significant global public health issues of the 21st century (Binder & Runge, 2004; Pan American Health Organization [PAHO], 2004; World Health Organization [WHO], 2004). Currently, worldwide, over a million people are killed and as many as 50 million are injured or disabled in road crashes each year. Consequently, road trauma represents a leading cause of death and the ninth leading contributor to the global burden of disease and injury (Binder & Runge, 2004; WHO, 2004). Moreover, if current trends continue, World Health Organization projections indicate that by 2020 road traffic injuries will increase such that they will rate third among the leading contributors to the global burden of disease and injury (Binder & Runge, 2004; PAHO, 2004). It is apparent that this "global road safety crisis" (United Nations General Assembly, 2003, p. 1) requires urgent attention not only because of the threat it poses to global public health and development but, because road traffic injuries *can* be prevented (Peden et al., 2004; WHO, 2004).

Beyond the need to simply identify the key risk factors contributing to road crashes, preventing road trauma will require a concerted global effort to identify and develop the most effective policy and intervention strategies (Peden et al., 2004). Based on this urgent need to pool global resources and undercover effective interventions, we believe that it is timely to examine the effectiveness of one particular road safety intervention, public health campaigns. Arguably, given that human factors such as speeding and drink driving remain major contributors to road traffic injury (PAHO, 2004)

many improvements in health (i.e., reduction in injury) will ultimately be brought about by changing people's attitudes and persuading them to adopt healthier, safer lifestyles. To achieve this, the mass media and health communication will play a crucial role. To increase the persuasive influence of future mass media campaigns, it is imperative that researchers and practitioners of health promotion continue to explore and evaluate different advertising strategies. Consistent with this aim, we highlight the concerns often raised regarding the effectiveness of threat-based health advertisements. Moreover, we explore whether health messages may be more effective when appealing to emotions other than fear.

Many public health campaigns use fear (or threat) as a persuasive strategy with the aim of producing specific changes in attitudes, intentions, and/or behaviors (Maddux & Rogers, 1983). Within Australian public health campaigns, road safety is particularly renowned for its use of graphic, threat-based appeals (Donovan & Henley, 2003). Typically, these advertisements depict graphic crash scenes as resulting from unsafe and illegal driving behavior(s) such as speeding and drink driving (Donovan, Jalleh, & Henley, 1999). These appeals aim to evoke a negative emotional response in the audience, namely fear, that is expected to motivate compliance with the message's recommendations (i.e., persuasion) (Witte, 1992).

However, it is well known that an extensive body of literature has yielded complex and often inconsistent results regarding the extent to which negative, fear-evoking appeals change attitudes and behaviors (see Leventhal, 1970). Contemporary theoretical perspectives suggest that it is not the level of fear evoked but, the provision of strategies that individuals believe they can enact that are the most important components

of a message (Rogers, 1975; Witte, 1992). Such strategies and the belief that one can enact them are referred to as response efficacy and message self-efficacy, respectively (Witte, 1992). Moreover, the empirical evidence based on health messages addressing various issues, including road safety (Lewis, Watson, & Tay, 2003; Tay & Watson, 2002), has demonstrated that response efficacy and message self-efficacy are better predictors of message persuasiveness than even the emotion of fear (Floyd et al., 2000).

These findings suggest that appeals that aim primarily to evoke fear may not be the most effective means of persuading drivers to adopt safer attitudes and behaviors. However, somewhat contrary to these findings is evidence that suggests emotional health messages are more effective than rational or informational type appeals. This support for the effectiveness of emotional messages has been found for health campaigns addressing various issues including AIDS/HIV (Flora & Maibach, 1990) and road safety (Elliott, 1993). Thus, it seems the issue is not whether or not health campaigns should utilize emotional appeals but, whether such campaigns should utilize emotional appeals other than negative, fear-based appeals.

Moreover, evidence suggests that the introduction of another type of emotional appeal may help to draw new attention to an issue when a campaign has matured and the effect of one type of appeal has diminished (Nabi, 2002). Consistent with this suggestion, research has found that the use of positive emotions including humor and joy are effective in gaining attention and in particular, the attention of individuals who may have considered themselves as being overly familiar with a campaign (Monahan, 1995). Additionally, research has indicated that positive emotions including empathy and compassion may help individuals to reframe and reconsider issues that they may have felt

as being not particularly relevant to their lives (Monahan, 1995). Arguably, within the road safety context, after many years and many campaigns relying upon negative, fear-inducing appeals it is possible that individuals have tired of this approach. The introduction of more appeals to positive emotions such as humor may help to renew interest in road safety messages. Presently, however, there is limited theoretical and empirical research pertaining to the use of humor in health campaigns (Monahan, 1995; for an exception see Conway & Dube, 2002). The majority of what is known about the persuasive effects of humor is based upon commercial advertising as opposed to health campaigns and it is questionable the extent to which research findings can be generalized (Conway & Dube, 2002; Dillard & Peck, 2000; Monahan, 1995).

Thus, we recognize the need for research to explore the respective roles and relative effectiveness of positive and negative emotional appeals in health campaigns (Reeves et al., 1991). Arguably, providing support for the use of positive emotional appeals would require demonstrating that positive appeals are more effective than traditional, negative emotional appeals or that the two appeal types serve different roles and thus are both necessary within health campaigns. Meta-analytical research has provided support for the latter view that both positive and negative appeals are necessary within health campaigns. This research, based on 87 road safety campaigns, indicated that the relative effectiveness of positive and negative appeals depended on the existing levels of compliance with a particular behavior. Specifically, when the base level of knowledge or behavior compliance was less than 40%, negative appeals were relatively more effective however, when the base level was greater than 40%, then positive appeals were relatively more effective (Elliott, 1993).

In contrast, it has also been suggested that positive appeals should be considered the approach of choice because too many intervening variables impact upon the effectiveness of negative appeals rendering them too “risky” and “complicated” (Elliott, 2003, p. 7). However, it should be noted that intervening factors have also been identified as influencing the effectiveness of positive emotional appeals. For instance, positive emotions such as humor may work against the advocacy of the message in instances where an audience deems such an appeal as inappropriate or offensive (Weinberger & Gulas, 1992). Currently, however, no prior research has explored the appropriateness of humor in the road safety advertising context.

In sum, we believe that there is sufficient need and justification to explore the persuasive utility of emotional appeals beyond that of traditional negative, fear-evoking emotional appeals. In particular, we argue for the need to gain further insight into the potential utility of positive emotional appeals in the road safety advertising context. We believe that this need for further insight is especially warranted given that positive emotion, relative to negative emotion, remains relatively unexplored in health communication research and underutilized in health communication practice. We believe that qualitative data derived through focus groups might be an ideal way to gain this insight. Prior research has indicated that it is qualitative rather than quantitative research that is more important for the design and development of effective health campaigns (Elliott, 1993). Moreover, focus group discussions represent the most suitable and efficacious means of obtaining an in-depth understanding of the key issues of interest (Morgan, 1998). Thus, using focus-group discussions we will explore the respective roles and relative effectiveness of positive and negative emotional road safety appeals as

perceived by a sample of drivers[1]. Exploration of the respective roles of positive and negative appeals will provide important insights into whether positive appeals represent an alternative approach to negative fear-inducing appeals or whether positive emotional appeals should be utilized in conjunction with negative emotional appeals. Moreover, we will explore the appropriateness of utilizing positive emotion such as humor in road safety advertising. Additionally, given the established importance of efficacy in relation to the use of fear, we wish to also explore whether efficacy as a cognitive construct, remains as critical to the persuasiveness of positive emotional appeals. As such, it is anticipated that we will provide further insights into the relationship between emotion and cognition in persuasive emotional appeals. To facilitate our discussions, we will expose participants to a number of speeding or drink driving advertisements[2]. Arguably, providing contemporary exemplars of different emotional appeals of varying levels of efficacy will assist participants to attain a similar understanding of the key issues. This understanding should increase the rigor of the findings.

Method

Participants

The only criterion for participation in the study was that individuals held a current driver's or motorcyclist's license. Overall, 16 drivers participated voluntarily in five separate focus groups between August and October 2004. To increase the representativeness of the sample, it was the intention of the researchers to recruit both male and female drivers of varying ages. To increase the likelihood that opinions of younger drivers were included in the study, first year psychology students were recruited (n = 8) in addition to participants recruited from the general public (n = 8). The former

group of participants signed up for the study via a recruitment notice placed on a university notice board whilst the latter group responded to a recruitment notice placed in an Australian state automobile club magazine. Consistent with our intention, the sample consisted of 11 females and 6 males with ages ranging from 17 to 53 years (*Mean* = 28.93 years).

In regards to incentives, the recruitment notices indicated that refreshments would be provided. However, in addition to refreshments, the first year psychology students received partial course credit whilst all other participants received no further incentives than the refreshments. We concede that it is difficult to determine the true impact that this difference in incentives offered may have had on participation in the study. However, we are confident that we made the experience of partaking in the group discussions sufficiently similar for all participants thus minimizing the impact of any difference between the groups due to the initial incentives provided. For instance, at the commencement of the discussions, it was emphasized to participants that every individual's thoughts were appreciated and valued. Moreover, participants were instructed that differences of opinion were likely and were most encouraged. Consistent with this introductory spiel, throughout the group discussions, the group moderator continually invited individual participants to share their thoughts thus reiterating the notion that every individual's opinions were of significance. For example, individual participants were asked, "Do you have anything you would like to add at this point?".

Materials

Stimulus materials: We believed that showing participants a selection of advertisements of different emotions and varying levels of response efficacy would

facilitate discussions and increase the rigor of our findings. The advertisements included in the study were selected from a large pool of Australian and New Zealand television road safety advertisements. To minimize previous viewing exposure, only advertisements not aired in the Australian state in which the study was conducted, were selected. All the advertisements focused upon either speeding or drink driving. From this initial pool, eight speeding and eight drink driving advertisements were selected after consultation with several road safety experts. For the purpose of this study, positive (i.e., lighthearted and humorous advertisements), negative (i.e., threatening and fear-evoking advertisements), and neutral (i.e., advertisements of limited or no emotion) emotional appeals that incorporated low and high levels of response efficacy were chosen. Brief descriptions of the drink driving and speeding advertisements are included in Tables 1 and 2 respectively.

Participants watched advertisements addressing either the issue of speeding or drink driving. Four randomly selected speeding advertisements were shown to one group of participants while the remaining four speeding advertisements were shown to a second group. This process was repeated with the drink driving advertisements for the third and fourth focus groups. The fifth focus group was added to increase the number of participants and to have approximately equal numbers in each of the four conditions.

Procedure

Prior to conducting the study, ethical clearance was applied for and granted from the University Human Research Ethics Committee. At the commencement of the study sessions, participants were provided an information sheet. This sheet explained the voluntary nature of participation and participants' right to withdraw from the study at any

time without explanation or penalty. Participants were assured of the confidentiality of their written responses and the anonymity of their verbal responses. All participants were required to sign a consent form.

Within the two hour session, before group discussions were commenced, participants first watched all the advertisements[3]. The group discussion sessions were guided by semi-structured questions that explored the key constructs of interest including emotion and response efficacy. For instance, participants were asked (1) how emotion and the provision of strategies impacted upon the effectiveness of a road safety advertisement, (2) about the roles and shortcomings of positive and negative emotion, and (3) for any ideas or suggestions for effective future campaigns. We found that our questions 'evolved' as our focus group discussions continued. In other words, our initial questions were further refined and additional questions were added based on participant responses from preceding focus groups.

Participants were invited first to discuss their thoughts about each specific advertisement they had viewed within the session. This discussion focused upon the emotions experienced during or after exposure to a particular advertisement, the incorporation of recommendations/strategies within the advertisement, and perceptions of the advertisement's overall effectiveness. As the discussion continued, questions encouraged participants to think and discuss the use of emotive appeals and the provision of strategies in road safety advertising campaigns more generally.

To increase the rigor of the findings from this study, member checking was conducted routinely within each group session. This ensured that the researcher adequately understood the responses of the participants and enabled immediate

clarification of any ambiguity (Murphy & Dingawall, 2003). Additionally, toward the end of each focus group, the researcher provided a summary of the key points of the discussion and participants were invited to amend any aspect of this summary. If suggestions or comments were made, these were discussed within the group until participants felt their views had been appropriately interpreted by the researcher. This summary was important because it provided participants with the opportunity to hear what the researcher was intending to take away from the discussion whilst participants were still within the group and thus able to confirm or challenge the researcher's interpretations (Murphy & Dingawall, 2003).

All group discussions were audio-taped. The decision to run five group sessions was based on an ongoing analysis of the discussion transcripts that indicated by the end of the fifth session that theoretical saturation (Morgan, 1998) had been attained.

Data Analysis

The audio-tape discussions were forwarded to a professional transcriber and were transcribed verbatim. These transcripts were analyzed and coded using thematic analysis. Concepts were identified as themes if they were expressed with frequency, extensiveness, or intensity (Krueger, 1998). When new themes emerged we recoded previously coded transcripts in order to include the newer themes. This process continued until no new themes emerged. The first author, who also had moderated the focus groups, conducted the analysis. However, to improve the validity and reliability of the first author's coding, frequent consultations with the other authors were held. These additional authors, who had not been present during the focus groups but, whom were involved closely with the planning and design of the study, were able to review the analysis with "fresh eyes".

Thus, these authors were particularly useful in identifying themes and interpretations that needed further clarification and/or explanation. We believe that the combined efforts of the authors have resulted in a thorough and well-justified analysis which in turn, has provided a comprehensive and accurate reflection of the data received.

Results

Role of emotion. Overall, with the exception of one participant, all participants regarded emotion as an essential component of road safety television advertisements. For instance:

"I think it would be effective as a general overall thing because it is so emotional"

More specifically, participants identified emotion as important for attracting a viewer's attention, increasing the likelihood that the advertisement and its message would be remembered, and preventing the advertisement from being boring. Statements illustrating these roles included:

"I think the emotional part really grabs me, grabs my attention. And later I'll think about it."

"…there needs to be some sort of connection there; otherwise you're not going to do anything about it; you're not going to remember it next time you're out on the road."

"Just the ones of facts and statistics are, like, quite boring – switch off."

Role of positive and negative emotion. The use of positive emotion in road safety messages was associated with promoting the message of prevention and providing positive role models of safe driving behavior. For example, the following were suggested for a future positive appeal:

"…have a campaign or some sort of run of ads that will bring out this positive thing of what's required of people to keep themselves out of trouble", and

"…[we need to start] showing people what they can do to avoid being in this situation to start with."

Alternatively, it appeared that the message of prevention was not well communicated within traditional, negative emotional appeals. For instance:

"There was nothing there to say, 'well, you've got to do this to prevent this'. It comes back to what we said before about the positive message. There was nothing in [negative messages] to say, 'well, you should be doing this to prevent this'"

In other words, positive emotional messages would be more suited at promoting the message of prevention than negative emotional messages.

In contrast, the inclusion of negative emotion, as in traditional threat-based messages, was associated with increasing the likelihood of the advertisement being remembered, increasing attention paid to the advertisement, and providing a means of reminding drivers that crashes do occur. The following comment reflected the important role some participants assigned to negative appeals:

"…[threat-based advertisements] provide the regular "top-up" of fear necessary to remind drivers that driving is perhaps the most dangerous thing they do in a day and that things can go wrong."

Differences of opinion emerged about the shortcomings of positive and negative emotional appeals. With regards to positive emotion, concerns related to the how long the message would be remembered and that the effect would be only short-term as opposed to long-term. For instance,

“I think it would have an effect, but it wouldn’t have a lasting effect as a negative ad. Like it would have an effect right there and then and every time you see it.”

Regarding the issue of how appropriate the use of positive emotion, specifically humorous appeals, would be in road safety advertising, there was some concerns expressed that humor would be inappropriate. For instance:

"…it did appear to be a bit frivolous and a bit – they weren’t treating the issue seriously."

"…It’s not funny and the subject is not funny.”

However, there was also some support for the use of humor. In particular, there was support for incorporating the emotions of humor and fear in the same campaign or advertisement in order to provide a comparison of potential outcomes. For instance,

“…like split scenes where you’ve got the one person driving in the car and other people in a taxi, singing. One getting home and one almost getting home [but crashing before they get there]… the humorous side…but then also showing you the fearful side.”

Concerns raised regarding the use of negative emotion indicated a belief that such appeals were less effective nowadays because viewers have become numbed to shock and/or have become tired of there being too much shock.

"…shock tactic advertising came into our culture, probably around the ’70s, coming into the’80s, and then it started to get a little bit more sophisticated. But then it started to lose it because the audience actually went, “Can’t shock me, I’m watching, you know, Razorback and cutting people’s heads off."

“So, to me there’s a whole spectrum [of emotional appeals] that really would have more impact than just a one-off thing that you do over and over and over again.”

“There’s too much shock.”

An additional concern was that responses from some participants implied a third-person effect ([TPE], Davison, 1983) as being associated with negative emotional appeals. The TPE maintains that an individual perceives a persuasive message as being of greater relevance and influence to others than themselves. Interestingly, whilst these participants perceived ‘others’ as being the target of negative messages, rather than themselves personally, these participants also reported that these “others” were not likely to change their behavior. For instance:

“Well, I’ve got a lot of idiot mates…so they’re just like, ‘Oh, pass it off’. It just doesn’t affect them.”

From the context of the discussion, this participant was suggesting that they had many acquaintances for which negative, threatening messages would apply however these acquaintances were unlikely to be affected by such messages.

Moreover, of these participants whose responses highlighted the presence of the third-person effect, two participants explicitly referred to the TPE. These participants also referred to the TPE as explanation as to why ‘others’ do not change their behavior following exposure to a threatening advertisement. For instance:

"… if you see somebody flying through the air and they’re dead, *they* go, “That won’t happen to me,” and *they* immediately block that out and make a third person." (Note: emphasis added to highlight the TPE)

Generally, participants across different focus groups tended to support the use of more positive emotion in future campaigns. However, there were different ways in which participants suggested positive appeals should be incorporated within campaigns.

Specifically, some participants supported adopting positive appeals as the preferred approach over the use of traditional, negative threat-based appeals.

"I think the emotions we should be trying to invoke are the joy that you feel when you actually get somewhere and get through your day in the way that you choose to, not being fearful of the consequences."

“I think we’re going in the wrong direction by doing that [by making people fearful of the consequences]”. Facilitator: “So…show the positive of if you do the right thing, then you’ll get where you’re going”. Participant: “Definitely, Absolutely.”

Moreover, another participant commented that whilst fear and scenes of carnage and mayhem had very strong emotional impact, she found this negative emotion more “off-putting” commenting that:

"…I would much rather be persuaded in a pleasant way."

Similarly, other participants noted:

"I think we need to get away from the negative and going more to the positive and say, well rather than say if this happens to you, you won’t get to the end of the journey, have it more like, well I got to the end of the journey because I did this, this, and this."

"It’s no accident that people get to their destinations."

From the context of the discussion, it appears that this last participant believed that showing people what other drivers do correctly and safely could be achieved through positive appeals and thus such appeals would provide an important road safety message.

Additionally, participants suggested that such positive appeals may ultimately prove effective just because they are different to negative appeals.

“I think it’s an important message because it’s different…”

In contrast, other drivers reported that positive appeals should be seen as another potential strategy within a complete campaign and, thus, utilized in conjunction with traditional negative appeals. For example:

"Well, I think you need a little bit of negativity, but they could do a lot more positive…"

“I would just like to say with every negative, you should have a positive…then put an option in, put a choice and say, ‘Okay, this is what could have happened. This is an option. You have a choice”

“…isn’t that what we’re trying to achieve? To even think about it before the accident happens, rather than being remorseful because it happened?...energy into preventing.”

Alternatively, several other drivers identified positive appeals as being particularly effective for targeting particular groups of road users and the group of particular mention was young drivers. It was perceived that such positive appeals would be able to provide such drivers with positive models of safe driving behavior.

"…if you have a youth audience…I think [advertisements should]…give them positive role models."

Moreover, some participants believed that rather than negative appeals that tend to depict an irresponsible young person as being the cause of a crash, positive appeals with a positive role model may appear less condescending to young drivers.

“…especially young people are very defensive about being – well, I know my daughter a little it is – about older people like us sort of putting them down at bit, in a

way…So, maybe from that point of view, it would be good to have something positive in the message."

Additionally, a number of drivers supported the need for more positive appeals to at least be trialed in the road safety advertising context.

Cognitive responses: The importance of efficacy. Another key component of road safety advertisements identified by almost all participants was the importance of providing strategies within the message (i.e., response efficacy). Typically, the presence or absence of strategies was associated with participants' perceptions of an advertisement's effectiveness or ineffectiveness, respectively. Participants comments regarding efficacy in regards to threat-based messages were consistent with previous research.

"…I think fear plus a good dose of what you can do to prevent the outcome from occurring."

"…You can't give all the negatives and not give something to replace it."

Interestingly, however, there was some indication that response efficacy remains important for positive emotional appeals also. For instance, when asked to compare the relative effectiveness of two humorous drink driving advertisements (i.e., "Taxi" and "Karaoke"), one participant commented that the advertisement with the strategy of taking a taxi was more effective than the karaoke advertisement which did not appear to depict any strategies.

"It was more persuasive, more effective…because they provided the strategy of taking a taxi home, whereas the other one didn't really have a strategy at the end of the humor."

Further, when asked what they would do to particular advertisements to improve them, one participant responded that, whilst she found an advertisement humorous and likely to be effective because it was different, she believed that the inclusion of strategies on how to avoid drinking and driving would have made the advertisement more effective. Empirical comparison of the persuasiveness of high efficacy positive and negative appeals appears to be a significant topic for future research. Potentially, the results of such research could have significant implications for future public health advertisement design.

Discussion

We aimed to explore the potential role that positive emotional appeals may play in road safety television campaigns. We suggested that support for the use of positive emotional appeals would require obtaining evidence that positive appeals were more effective than traditional, negative emotional appeals or that the two appeal types served different roles and thus were both necessary within health campaigns. Overall, we suggest that the key conclusion emerging from our results is that there may be times when positive appeals have a persuasive advantage over negative appeals. The discerning reader may assert that this conclusion also implies that there are times when negative appeals may be more effective. Consistent with this assertion, our results highlight that the notion of adopting one emotional appeal type in place of another is likely to be too simplistic given that each appeal type is associated with different roles and respective shortcomings. Arguably, to increase the likelihood that a persuasive message reaches its intended target audience with the intended effect, practitioners of health persuasion must have an array of strategies and tactics at the ready. Presently, as has been discussed

previously, negative emotion as a strategy, has received extensive attention both in advertising research and practice. Thus, we suggest the significance of our findings is in broadening the scope of emotions examined and identifying times when positive emotion may represent a more effective strategy than negative appeals. Consequently, our results challenge the persistent belief that persuading individuals to adopt safer driving behavior(s) can only be achieved (or even attempted) through negative, fear-evoking appeals.

Positive emotional appeals were identified as a potentially effective way of promoting the theme of prevention. Participants believed that there was a need for appeals that depicted "safe" driving and the positive consequences of that behavior. In depicting such behavior, drivers could be provided positive role models of what they could do to "keep themselves out of trouble" on the roads. Thus, participants tended to link positive emotional appeals with the notion of doing the "right" thing (or more specifically seeing the "right" thing being modeled) and the subsequent prevention of aversive outcomes. This finding suggests that some drivers may appreciate seeing more drivers being rewarded for "safe" behavior. The issue of whether to reward and thus reinforce safe driving is not new to the road safety. Indeed, it has, for some time represented an issue of considerable contention in the road safety context. Our findings suggest, however, that it may represent a potentially persuasive strategy and as such it is deserving of more attention by health advertising researchers and practitioners. Moreover, by suggesting a way that road safety advertisements may be designed to focus more on preventing road trauma, such a finding aligns well with the WHO's recent focus on improving interventions in order to prevent the "global road safety crisis".

In contrast, focusing on prevention was not considered a theme well communicated by or consistent with the focus of traditional, fear-evoking messages. Participants regarded negative appeals as focusing on making drivers feel fearful and/or remorseful after a crash had occurred, at which time, it was too late to change the outcome. However, although not promoting the message of prevention, negative emotional appeals were considered an effective means of "grabbing attention" and providing the regular "top-up" of fear necessary to remind drivers that driving is dangerous. Interestingly, whilst negative appeals were also considered highly memorable, one of the main concerns associated with positive appeals pertained to the duration of their effectiveness. Specifically, participants believed that positive appeals may not be remembered too long after exposure and that their persuasive effects would be short-lived. Future empirical investigation would assist in determining whether this is indeed the case. Arguably, the most comprehensive investigation of duration effects on persuasion would require comparison of such effects for both positive and negative emotional appeals. This comparison would determine whether one appeal type provides relatively longer-lasting persuasive effects. Thus, these results suggest that positive appeals may deliver an important and distinct message (i.e., prevention) from that of negative appeals. Through the identification of a difference in the purpose or focus of positive and negative appeals, this research extends upon previous research that has suggested both appeal types serve different functions and therefore are both necessary within road safety campaigns (see Elliott, 1993). Thus, depending on the intended aim or focus of a message, there may be times where positive appeals are more effective than negative appeals.

Interestingly, additional evidence of a persuasive advantage of positive appeals over negative appeals may be derived from the shortcomings associated with negative appeals. Two main shortcomings/weaknesses of negative appeals were identified; their association with the third-person effect (TPE) and the growing discontent with the continued use of such appeals in road safety. We argue that these particular shortcomings may significantly undermine the overall effectiveness of negative appeals. First, the association between negative emotional appeals and the TPE should be of particular concern to health advertising practitioners given that previous research has indicated that when individuals perceive greater influence of a message on others' relative to self (i.e., the TPE), the individual's own attitudes and behaviors are less likely to change or to become consistent with a message's recommendations (Lewis et al., 2003; Mutz, 1989). Moreover, this finding should be of added concern to road safety adverting practitioners given that the aversive impact of the TPE on persuasion has been moderated by gender with males more likely to regard negative appeals as having less influence on their attitudes and behaviors (Lewis et al., 2003). Given that males, and specifically young males, are over-represented in road trauma, it would appear that despite being the intended target audience of many road safety threat appeals, many young males are not heeding the messages. In our view, the association of the TPE with negative appeals represents a serious shortcoming of negative appeals as it may render such appeals ineffective with one of the most 'at risk' road user groups.

The second shortcoming associated with negative appeals pertains to the growing discontent with their continual use in road safety campaigns. Confirming our predictions, participants indicated growing tired of such negative appeals and feeling numbed to

"shock tactic advertising". Arguably, this growing discontent should not be taken lightly as it may have diminished the persuasive ability of negative appeals. Specifically, individuals may have tired of such appeals to the extent that they no longer attend to the messages and/or feel that the road safety issue is over-familiar. Given that it is unlikely that individuals are likely to be persuaded by messages that they no longer are attending to, this indeed poses a serious concern to the effectiveness of negative appeals.

Whilst these identified shortcomings may impact adversely upon the effectiveness of negative appeals, evidence derived from the current study and elsewhere suggests that positive appeals may 'overcome' these same shortcomings. Such evidence supports the notion of a persuasive advantage of negative appeals. For instance, whilst the association between the TPE and negative appeals may have reduced the persuasiveness of such appeals for young drivers and particularly young male drivers, the results from the current study identify positive appeals as a potentially effective strategy for young drivers. Such appeals were considered potentially effective for these drivers because; (1) they could provide positive role models of "safe" driving behavior, and (2) they would be less likely to be perceived as condescending to young drivers than traditional negative appeals[4] and thus, less likely to be ignored and/or rejected. Given that young drivers are being injured and killed in road crashes at a rate much higher than any other age group (Williamson, 1999) there is an evident need to reconsider the most effective means to tailor persuasive appeals so as to target these individuals. Consistent with this need, we have identified positive appeals as a potentially effective strategy for this group of high risk road users. We advocate the need for further focus groups discussions comprised of

young drivers and perhaps, more specifically, young male drivers to continue the exploration of the role and potential effectiveness of positive appeals.

In relation to the concern that the growing discontent with the use of negative appeals may have diminished their persuasiveness, previous research has suggested that positive appeals may assist in renewing interest and drawing new attention to an issue that individuals may feel is overly familiar (Monahan, 1995; Nabi, 2002). Consistent with this suggestion, our results indicated that even participants who were not completely confident of how effective positive appeals would be were supportive of trialing such appeals on the basis that a different strategy may ultimately prove effective (e.g., "I think it is an important message because it is different"). Presently, very limited empirical research exists that has examined the impact that the introduction of a different, subsequent emotional appeal has upon the overall effectiveness of a health campaign. We highlight this as an important endeavor for future empirical research – after all, ensuring that attention for a campaign remains at a high level is paramount because it is unlikely that individuals would be persuaded by a campaign that they are no longer attending to. In particular, we suggest that future empirical research should ascertain whether positive emotional appeals represent the "different" emotional appeal that is capable of re-capturing attention. In the event that positive appeals were found to re-capture attention, such findings would have significant implications for the design, not only of future road safety campaigns, but health campaigns in general.

Whilst the evidence discussed thus far, has highlighted a number of advantages of utilizing positive emotional appeals, it is important to note a specific concern participants associated with positive appeals. This concern pertained to the appropriateness of positive

appeals that evoke humor. Some participants were concerned that lighthearted, humorous messages may appear too frivolous for the road safety context. Future empirical research would need to determine whether this concern does indeed have implications for the overall effectiveness of humorous road safety appeals. However, we are particularly encouraged by recent findings based on health messages that found humorous appeals were more persuasive than non-humorous messages for males (Conway & Dube, 2002). Once again, there appears to be support for the adoption of more positive appeals in the attempt to persuade these high risk road users. Moreover, we believe that this finding supports our view that positive emotions such as humor may be implemented effectively within campaigns for threatening topics such as road safety. It is possible that making light of the strategies used to prevent serious health threats rather than the topic itself may be the manner in which humor could be effectively utilized (Conway & Dube, 2002; Nabi, 2004).

If, however, empirical research found that humorous road safety appeals were deemed inappropriate and thus, associated with dissuasive effects, it is important to remember that humor represents only one possible positive emotion. Given that positive emotional appeals are not utilized commonly within road safety, we were limited in the number and type of positive appeals that were available. As such, we would encourage researchers not to abandon interest in the role that other positive emotional appeals (e.g., appeals to pride and empathy) may play in health campaigns. Relative to the research available on negative emotions and persuasion, much more empirical research and theoretical development is needed to further understanding of the role of positive emotions in persuasion (Nabi, 1999).

To provide further validation of our interpretations of the respective roles of positive and negative appeals, we also asked participants directly if positive emotional appeals should be used in road safety campaigns and if so, in what way such appeals should be utilized in future campaigns. We believed that this represented a notable aspect of our research because participants were invited to share their thoughts about what they would like to see in future road safety campaigns.

These direct reports revealed that most participants supported increased trialing of positive emotional appeals in the road safety context. However, despite this support, there was contention regarding the manner in which different appeals types should be utilized. Some participants supported the adoption of positive appeals as the preferred approach in place of negative, threat appeals. In contrast, other participants supported the need to incorporate both positive and negative emotional appeals within campaigns. For instance, it was suggested that combining humor and fear within a campaign, or even within a single advertisement, may be an effective means of depicting the consequences of doing the "right thing" and the "wrong thing" respectively. Presumably, when confronted with the two opposing outcomes, arriving safely at one's destination versus being involved in a crash, individuals would choose the behaviors that resulted in the former outcome. Arguably, this finding may have important implications for road safety advertising research and ultimately, practice. In relation to research, no study has directly compared the effectiveness of modeling the correct behavior versus depicting the incorrect behavior (Donovan, Henley, Jalleh, & Slater, 1995). According to our results however, this comparison represents a significant issue for future research pursuits. In advertising practice, whilst we acknowledge that attempts have been made to depict the outcomes of

doing the “right” versus the “wrong” thing, we believe the majority of these attempts have addressed speeding behavior[5]. Interestingly, however, speeding is perhaps the least likely behavior that requires modeling of an alternative, more desired behavior given that there is only one alternative to speeding and that is, not speeding (Donovan et al., 1995). In contrast, for behaviors such as drink driving where there are a number of alternative behaviors to avoid engaging in the risky behavior, modeling has been regarded as an “appropriate and *recommended* response since learning is required to increase the salience of these alternatives” (Donovan et al., 1995, p. 25). It is our hope that the current findings provide the justification for road safety advertising practitioners to at least consider the utility of using such an approach for a range of driving behaviors.

Emotion and Cognition More Broadly

Although our primary aim was to explore the respective roles of positive and negative emotional appeals, we also explored the role of emotion more broadly. Additionally, given the established importance of efficacy in relation to the use of fear, we also explored whether efficacy as a cognitive construct, remained as critical to the persuasiveness of positive emotional appeals. Our findings indicated that emotion was regarded an essential component of effective public health messages. Specifically, emotion was believed to be a key factor influencing the degree to which the message was initially attended to and subsequently remembered. Emotional messages were also regarded as being more likely to maintain a viewer’s interest than rational or informational type messages. These findings are consistent with previous research that has compared the relative effectiveness of emotional and informational messages (e.g., Elliott, 1993; Flora & Maibach, 1990).

Additionally, the results indicated that the cognitive factor of response efficacy was considered important by participants in all focus groups. Further, views expressed indicated that, irrespective of the emotional appeal type (i.e., positive or negative), individuals require information about what they can do to be safer on the road. Such findings do highlight the need for further understanding of the persuasive process. For instance, determining the most persuasive combination of emotion and efficacy represents an interesting question for future research pursuits.

Conclusion

The current study supports the important role of emotive appeals in health promotion. Overall, one of the key findings to emerge from this study is that positive emotional appeals may serve an important and unique role in the promotion of health behaviors. We believe that this finding provides sound justification for challenging the persistent belief existing in road safety and health advertising practice in general, that the only way to modify health behavior is through graphic, scare tactics. We believe that this research highlights that there may be another way and that way may be through positive emotional appeals that model safe behaviors and that evoke such emotions as humor. Furthermore, the results highlight that positive appeals may have a particular advantage for individuals at high risk of injury, namely young drivers. Reducing the incidence of road trauma amongst these high risk road users would represent not only a significant improvement for road safety but for public health more broadly.

Final Note

We acknowledge that preventing the "global health crisis" of road trauma will require efforts to address risk factors relating to not only the road user, but also the

driving environment, and the vehicle. However, we believe that persuading individuals to adopt safer driving practices in regards to speeding and drink driving would reduce the impact of two of the major human factors contributing to road crashes. Although our efforts may appear focused narrowly upon only one road safety intervention, namely health advertising, we believe our focus is completely warranted and consistent with the need to uncover effective interventions and policies in order to ultimately prevent road trauma.

End notes

[1] Neutral emotional appeals were also selected for inclusion in the study. These appeals were deemed to incorporate no or very limited appeal to emotion(s). It was intended that these appeals would provide a baseline not only allowing exploration of emotional versus rationale advertisements but, also enabling comparison of whether positive or negative emotional appeals were considered more effective than appeals incorporating very little or no emotion.

[2] The advertisements included in the study were selected in consultation with the second author, Dr Barry Watson, a road safety expert.

[3] Prior to the group discussions commencing and subsequent to the advertisement viewings, participants completed a self-report questionnaire. Among other measures, this questionnaire collected demographic details and assessed the emotionality and response efficacy of the specific advertisements that participants had viewed. Sample questionnaire items are provided in Table 3.

[4] Participants suggested that negative appeals were condescending to young drivers because they believed that such advertisements typically depict a crash occurring as a result of a young, irresponsible driver behaving foolishly on the road.

[5] Typically, these advertisements depict a collision occurring or being avoided according to whether the driver is driving over or at the speed limit respectively.

References

Binder, S., & Runge, J. W. (2004). Road safety and public health: A US perspective and the global challenge. *Injury Prevention, 10*, 68-69.

Conway, M., & Dube, L. (2002). Humor in persuasion on threatening topics: Effectiveness is a function of audience sex role orientation. *Personality and Social Psychology Bulletin, 28*(7), 863-873.

Davison, W. P. (1993). The third-person effect in communication. *Public Opinion Quarterly, 47*, 1-15.

Dillard, J.P. & Peck, E. (2000). Affect and persuasion: Emotional responses to public service announcements. *Communication Research, 27*, 461-495.

Donovan, R., & Henley, N. (2003). *Social Marketing: Principles & Practice*. Melbourne, Australia: IP Communications.

Donovan, R. J., Jalleh, G., Henley, N. C., 1999. Executing effective road safety advertising: Are big budgets necessary? *Accident Analysis and Prevention, 31*, 243-252.

Donovan, R.J., Henley, N.C., Jalleh, G., & Slater, C. (1995). *Road safety advertising: An empirical study and literature review*. Donovan Research, Federal Office of Road Safety.

Elliott, B. J., (2003). *The psychology of fear appeals re-visited*. Paper presented at 2003 Road Safety Research, Policing and Education Conference. Sydney, Australia.

Elliott, B. (1993). *Road safety mass media campaigns: A meta-analysis*. Elliott & Shanahan Research, Federal Office of Road Safety.

Floyd, D. L., Prentice-Dunn, S., & Rogers, R. W. (2000). A meta-analysis of research

on protection motivation theory. *Journal of Applied Social Psychology, 30*(2), 407-429.

Flora, J. A., & Maibach, E. (1990). Cognitive responses to AIDS information: The effects of issue involvement and message appeal. *Communication Research, 17*(6), 759-774.

Krueger, R. A. (1998). *Analyzing and reporting focus group results*. Thousand Oaks: CA: Sage.

Lammers, H. B., Leibowitz, L., Seymour, G. E., & Hennessey, J. E. (1983). Humor and cognitive responses to advertising stimuli: A trace consolidation approach. *Journal of Business Research, 11*, 173-185.

Leventhal, H. (1970). Findings and theory in the study of fear communications. In L. Berkowitz (Ed.). *Advances in experimental social psychology* (Vol 5). NY: Academic Press.

Lewis, I., Watson, B., & Tay, R. (2003). The third-person effect and the acceptance of threatening rod safety television advertising: Are current advertisements ineffective for male road users? Paper presented at the *Road Safety Policing and Education Conference,* Sydney: Australia.

Maddux, J. E., & Rogers, R. W. (1983). Protection Motivation and Self-Efficacy: A revised Theory of Fear Appeals and Attitude Change. *Journal of Experimental Social Psychology, 19*, 469-479.

Monahan, J., L. (1995). Thinking positively: Using positive effect when designing health messages. In E. Maibach & R. L. Parrott (Eds.), *Designing Health Messages:*

Approaches from communication theory and public health practice (pp. 81-98). Buckingham: Sage.

Morgan, D. L. (1998). *Planning focus groups* (Book 2), Focus Group Kit. Thousand Oaks, CA: Sage.

Murphy, E., & Dingwall, R. (2003). *Qualitative methods and health policy research*. NY: Walter de Gruyter.

Mutz, D. C., (1989). The influence of perceptions of media influence: Third-person effects and the public expression of opinions. *International Journal of Public Opinion Research, 1*(1), 3-23.

Nabi, R. L. (2004). Laughing in the face of fear (of disease detection): Using humor to promote cancer self-examination behavior. Unpublished manuscript.

Nabi, R. L. (2002). Discrete emotions and persuasion. In J. Price Dillard & M. Pfau (Eds.). *The persuasion handbook: Developments in theory and practice* (pp. 289 - 308). Thousand Oaks, CA: Sage.

Nabi, R. L. (1999). A cognitive-functional model for the effects of discrete negative emotions on information processing, attitude change, and recall. *Communication Theory, 9*, 292-320.

Pan American Health Organization. (2004). *World Health Day 2004: Road safety. Press Feature*. Retrieved September 18, 2005, from http://www.paho.org/English/DD/PIN/whd04_features.htm

Peden, M., Scurfield, R., Sleet, D., Mohan, D., Hyder, A.A., Jarawan, E., Mathers, C. (2004). *World report on road traffic injury prevention*. Geneva: World Health Organization.

Reeves, B. R., Newhagen, J., Maibach, E., Basil, M., & Kurz, K. (1991). Negative and positive television messages: Effects of message type and context on attention and memory. *American Behavioral Scientist*, 34(6), 679-694.

Rogers, R. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology, 91*, 93-114.

Tay , R., & Watson, B. (2002) Changing drivers' intentions and behaviors using fear-based driver fatigue advertisements. *Health Marketing Quarterly, 19*(4), 55-68.

Tay, R., (2002). Exploring the effects of a road safety advertising campaign on the perceptions and intentions of the target and non-target audiences to drink and drive. *Traffic Injury Prevention. 3*, 195-200.

Tay, R., (2001). Fatal crashes in young male drivers: A continuous time Poisson change-point analysis. *Australian New Zealand Journal of Public Health, 25*(1), 21-23.

Tay, R., (1999). Effectiveness of the anti-drink driving advertising campaign in New Zealand. *Road and Transport Research, 8*(4), 3-15.

United Nations General Assembly. (7 August 2003). Global road safety crisis: Report of the Secretary-General. Retrieved September, 18, 2005 from http://www.unece.org/trans/roadsafe/docs/SG_report_e.pdf

Weinberger, M. G., & Gulas, C. S. (1992). The impact of humor in advertising: A review. *Journal of Advertising, 21*(4), 35-59.

Williamson, A. (1999). *Young drivers and crashes: Why are young drivers over-represented in crashes? Summary of issues*. Summary Paper prepared for Motor Accidents Authority. Sydney, Australia.

Witte, K. (1992). Putting the fear back into fear appeals: The extended parallel process model. *Communication Monographs, 59*, 329-349.

World Health Organization. (2004). UN General Assembly plenary session focuses o road safety for the first time in history. Countries discuss measures to reduce 1.2 million death toll on the world's roads. Retrieved September 18, 2005, from http://www.who.int/mediacentre/news/releases/2004/pr26/en/print.html

Table 1

Brief descriptions of drink driving advertisements included in study

Ad name	Description
Glasses	Empty beer glasses appear in front of the windscreen one by one causing increasingly blurred vision. The car collides into the rear of a stationary truck. Shows the wife of the driver at home, being told by police her husband has been killed.
Bush Telegraph	Tradesmen are drinking and are warned of a booze bus via a phone call from a mate. A man agrees to have one more beer. On the way home, the man drives through a stop-sign and a large truck runs over the ute.
John and Jessica	In a hospital, male driver is arguing with his girlfriend. The driver does not want his blood tested for alcohol concentration. Police officers inform him that the other person in the crash has died.
Never	"Julie" and her boyfriend are at her dad's birthday party. The boyfriend drives home and runs into a stationary truck. Julie is shown covered in blood and lifeless. The boyfriend survives. Julie's dad has flashbacks of Julie at his party.
Hangover	Two men at a bar drinking. One guy talks about the future as though it has already happened. He says that he has too much to drink and kills a motorcyclist on his way home. Very brief visions of a crash are shown as he is talking. Ad utilizes black humor.
Taxi	Shows the comical conversations a taxi driver experiences with intoxicated passengers. The advertisement concludes with, "If you drink

	and drive and take a taxi, you're a bloody genius".
Stop-Bus	Many potential options for avoiding drink driving including, walking home, leaving keys at home, taking a taxi, refusing drinks at a bar. The voiceover suggests to "Stop yourself here" at each option. The advertisement ends with, "Or we will stop you here" with the picture of a driver being tested at a booze bus.
Karaoke	Set in a bar with a karaoke machine. Shows that the more people drink the more confident and loud they become. The voice over explains that the more we drink the more we get false confidence and do things we normally wouldn't. The advertisement concludes that unlike drinking and driving singing after drinking will never kill anyone.

Table 2

Brief descriptions of speeding advertisements included in the study

Ad name	Description
10K Less	Stopping from 70km/h compared with 60km/hr. A man walks out from between parked cars. At 70km/hr he is hit by a car. The crash is replayed in slow motion as a doctor simultaneously explains the injuries. A second scene shows that at 60km/h, the driver stops before impact.
Little Girl	Similar to the 10k Less advertisement. Difference in stopping distance. A cardboard cut-out of a girl is used. Drivers are randomly selected from the street and then try to stop before hitting the cut-out.
Mum and Son	Young man is shown getting ready for a night out. He is in the car and

	you assume he is driving. He is shown however, to be being driven by his mum. The voice over suggests not to speed because losing your licence can really cramp your style.
Split Scenes	The advertisement shows scene in two separate panels simultaneously. In the first panel, a driver hits a jogger and in the other it is a near miss. The scenes fade to black and 70km/hr appears on the first panel and 60km/hr on the second panel.
Consequences	Different consequences of speeding for different drivers. For example, one driver is shown receiving the infringement notice in the mail and another is shown to be quadriplegic.
Rachel	A young woman standing describes her crash. At the same time, a graphic crash is shown in slow motion. She says never to think a little speed won't make a difference because it can completely change your life.
Spot	Advertisement begins with the question, "Can you see the spot cameras?". The voiceover says cameras are in all types of vehicles.
Don	A family is shown driving along an open road. The father is driving. His speed is increasing beyond 100km/hr. The scene freezes and the voice-over explains how "Don is about to kill his wife" The scene continues, showing the complete crash and a scene of Don's wife with blood all over her face and lifeless.

Table 3

Brief summary of questions asked in questionnaire prior to group discussions

Response Efficacy [a]
1. This advertisement motivated me never to want to drink and drive/speed
2. The advertisement increased my intention not to drive when I have been drinking/to not speed
Emotions Evoked [b]
Sad, Guilt, Angry, Fearful, Distressed, Irritated, Anxious, Happy, Afraid, Relieved, Amused, Scared, Annoyed, Cheerful
Overall Effectiveness of the Advertisement [c]
1. Not at all Persuasive/Very Persuasive
2. Not at all Convincing/Very Convincing
3. Not Very Effective/Very Effective
4. Not at all Appealing/Very Appealing
5. Not at all Memorable/Very Memorable

[a] Items were assessed on a seven-point scale from 1 (*Strongly disagree*) to 7 (*Strongly agree*)

[b] Participants were asked to indicate the extent that an advertisement had made them feel a particular emotion on a seven-point scale from 0 (*None of this feeling*) to 6 (*A lot of this feeling*).

[c] Each bipolar pair was assessed using a seven-point scale with higher scores indicating more persuasive and effective advertisements.